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> Dawnice 48V 200AH LiFePO4 Battery User Manual

Dawnice DW-LFP48200R

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Model: DW-LFP48200R

Brand: Dawnice

INTRODUCTION

This user manual provides essential information for the safe and efficient operation of your Dawnice 48V 200AH Lithium LiFePO4 Battery. This battery is designed for various deep cycle applications, including solar systems, RVs, boats, marine, and ESS (Energy Storage Systems). Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of your battery.

The Dawnice LiFePO4 battery features a built-in 100A BMS (Battery Management System) for enhanced safety and performance, offering a long lifespan of over 6000 cycles at 80% Depth of Discharge (DOD).

SAFETY INFORMATION

Your Dawnice LiFePO4 battery is manufactured with safety as a priority. It utilizes LiFePO4 chemistry, which is inherently stable and less prone to thermal runaway compared to other lithium-ion chemistries. However, proper handling and installation are crucial.

- Always read the user manual carefully before using the battery.
- Do not puncture, drop, or subject the battery to severe impact.
- Ensure proper ventilation during operation and charging.
- Use only a dedicated lithium battery charger for charging.
- Avoid short-circuiting the battery terminals.
- Keep the battery away from heat sources and direct sunlight.
- In case of any issues, contact Dawnice customer support immediately.

PRODUCT COMPONENTS AND DETAILS

The Dawnice 48V 200AH LiFePO4 battery is designed for rack mounting and features a robust construction with clearly labeled components.



Figure 1: Front view of the Dawnice 48V 200AH LiFePO4 rack-mounted battery. This image shows the main controls and terminals on the front panel of the battery unit.

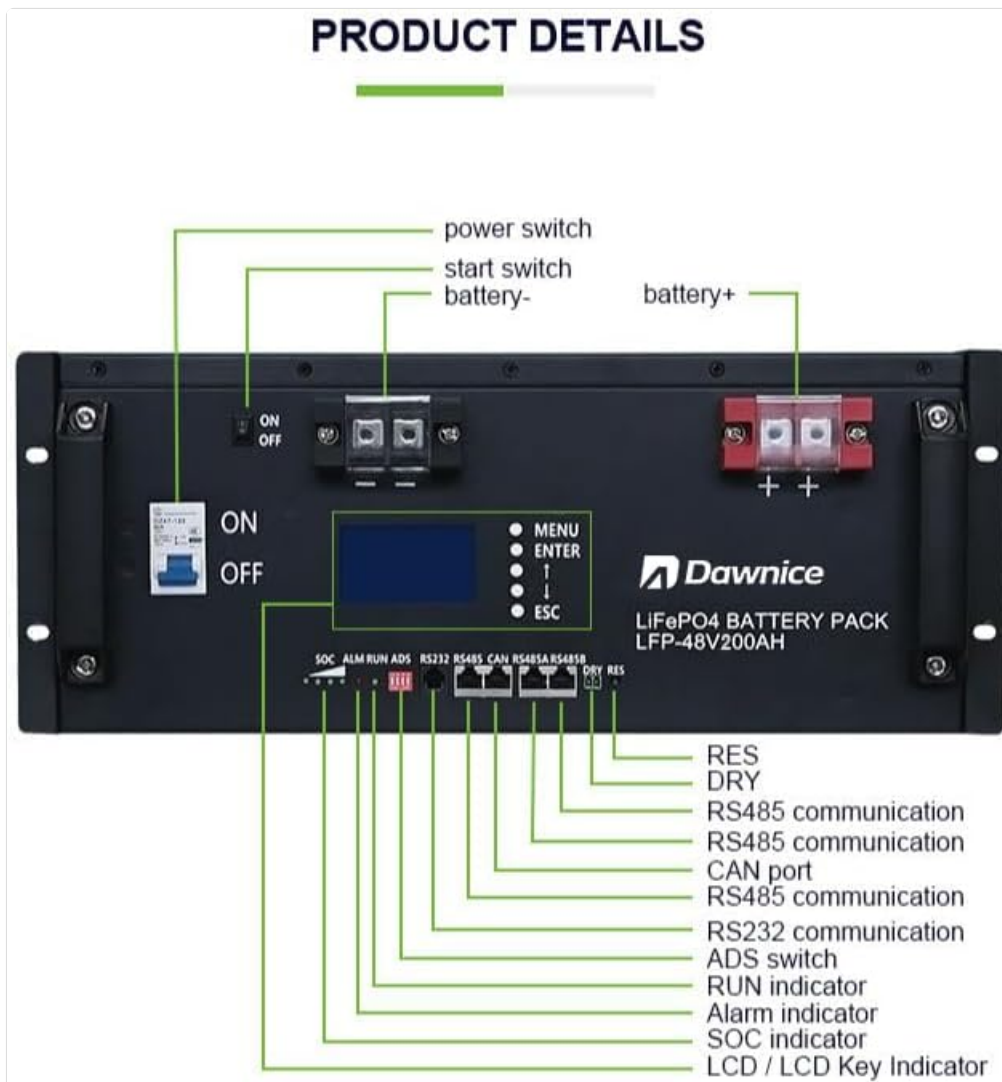


Figure 2: Product Details Diagram. This diagram illustrates the various components and ports of the Dawnice 48V 200AH LiFePO4 battery, including the power switch, start switch, battery terminals (positive and negative), LCD display, and communication ports (RS232, RS485, CAN). Indicators for SOC, ALM, RUN, and ADS are also shown.

SETUP AND INSTALLATION

The Dawnice 48V 200AH LiFePO4 battery is designed for rack mounting, allowing for scalable energy storage solutions. Follow these general guidelines for setup and installation:

1. **Unpacking:** Carefully remove the battery from its packaging. Inspect for any visible damage.
2. **Placement:** Install the battery in a clean, dry, and well-ventilated area. Ensure the environment is within the recommended operating temperature range.
3. **Rack Mounting:** Securely mount the battery unit(s) into a standard equipment rack.
4. **Wiring:** Connect the battery to your inverter and solar charge controller (if applicable) using appropriate gauge cables. Ensure correct polarity (+ to + and - to -).
5. **Parallel Connection:** For increased capacity, multiple Dawnice 48V batteries can be connected in parallel, up to a maximum of 16 units. Refer to the connection diagram below for proper wiring.
6. **Initial Charge:** Before first use, it is recommended to fully charge the battery with a dedicated lithium battery charger.

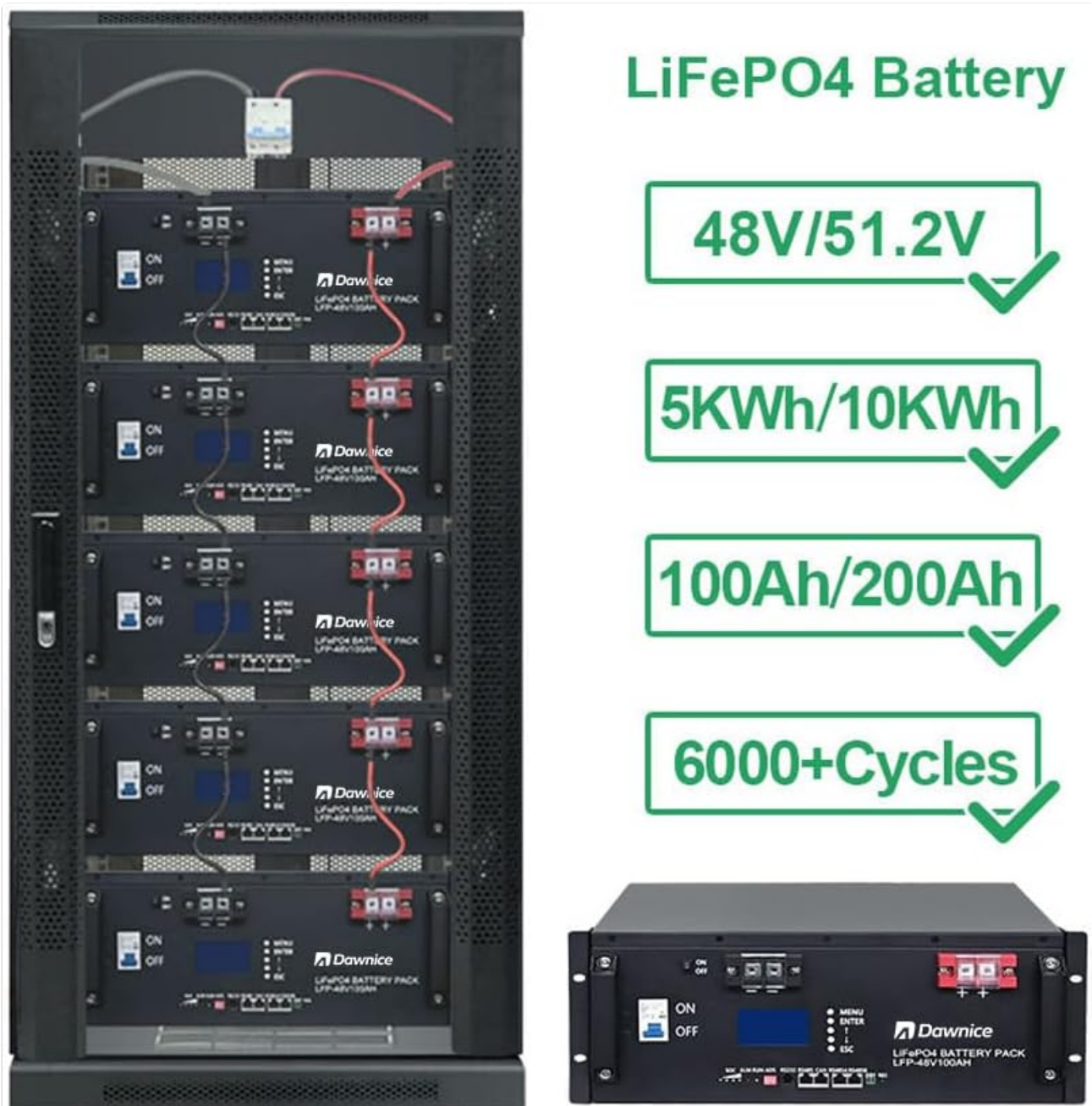


Figure 3: Rack Installation Example. This image shows several Dawnice LiFePO4 batteries rack-mounted, demonstrating their modularity and suitability for scalable energy storage systems in a professional setup.

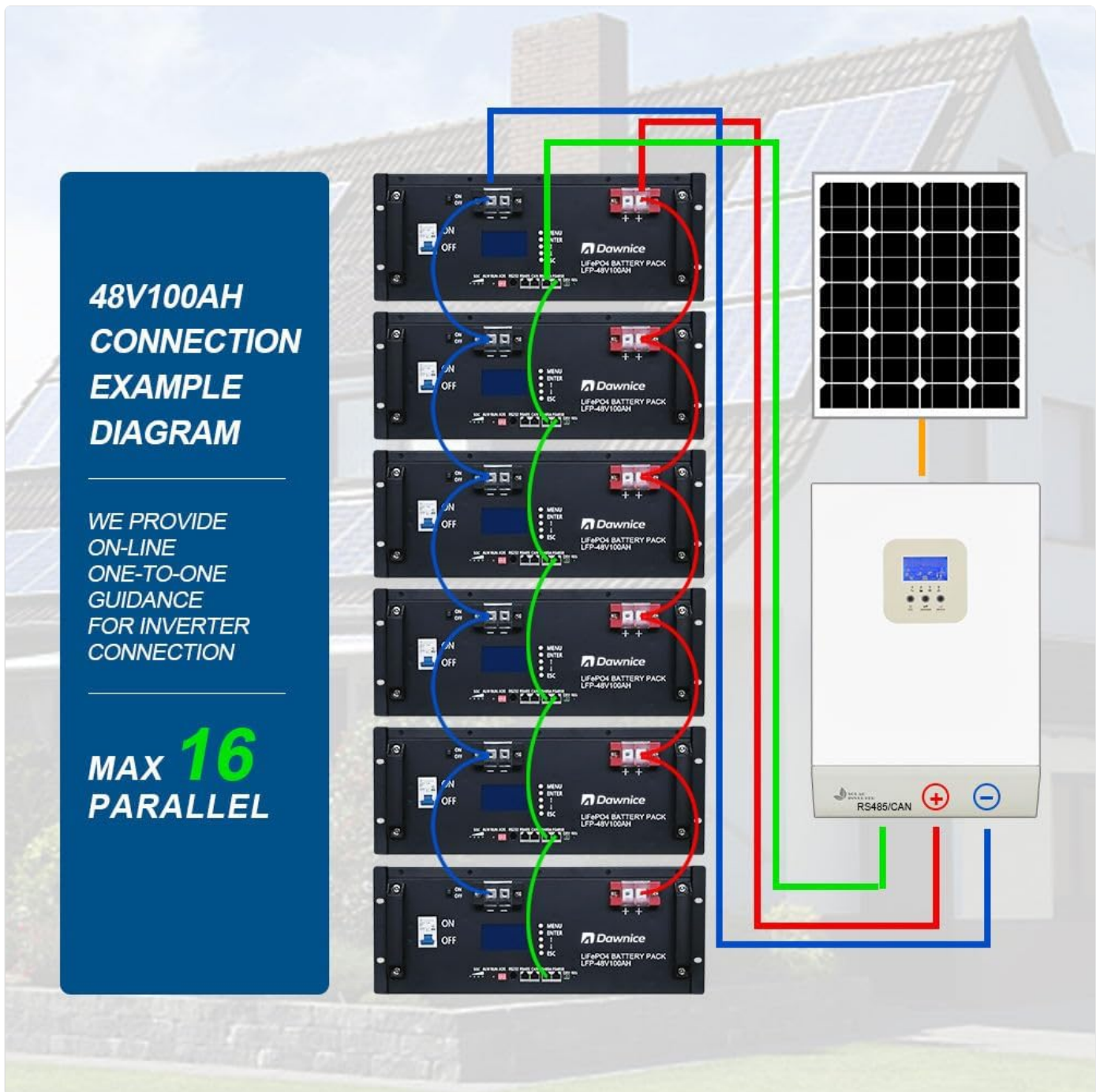


Figure 4: 48V 100AH Connection Example Diagram. This diagram provides an example of how to connect multiple Dawnice 48V batteries in parallel (up to 16 units) to an inverter and solar panel system, illustrating the wiring for a complete energy storage solution.

OPERATING INSTRUCTIONS

The Dawnice LiFePO₄ battery is equipped with a smart 100A Battery Management System (BMS) that ensures safe and efficient operation.

Battery Management System (BMS)

The integrated BMS protects your battery from various conditions, extending its lifespan and ensuring safety:

- **Over Charge Protection:** Prevents the battery from being charged beyond its safe voltage limit.
- **Over Discharge Protection:** Prevents the battery from being discharged below its safe voltage limit.
- **Over Current Protection:** Protects against excessive current draw.
- **Short Circuiting Protection:** Automatically cuts off power in case of a short circuit.
- **Low and High Temperature Protection:** Ensures operation within safe temperature ranges.

- **Voltage Balance:** Balances the voltage across individual cells for optimal performance and longevity.
- **Automatic Reactivation:** If the BMS cuts off the battery (e.g., due to over-discharge), it will automatically reactivate after 1 second once the condition is resolved.

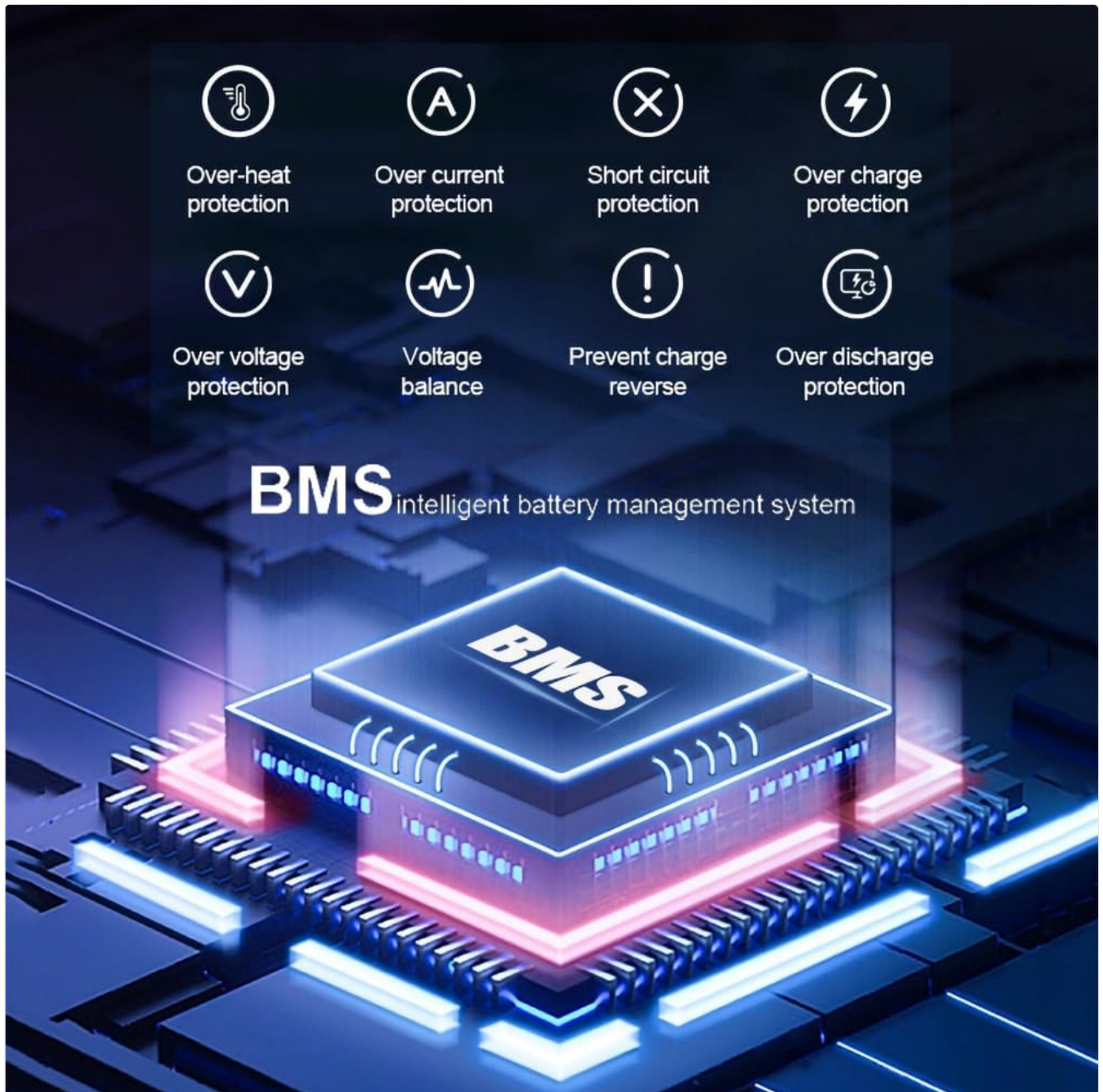


Figure 5: BMS Intelligent Battery Management System. This graphic highlights the various protections offered by the integrated BMS, including over-heat, over-current, short circuit, over-charge, over-voltage, voltage balance, and reverse charge prevention, ensuring safe and optimal battery operation.

Real-time Monitoring

The battery supports real-time monitoring of its status and performance. This allows users to track key parameters such as voltage, current, and battery cycle times.

REAL-TIME MONITORING

Bluetooth/ WIFI (Optional)



- Carefully selected 16pcs battery cells the smaller the voltage difference between the individual cells the higher the utilization rate of the battery, the longer life.
- 100% Full Capacity.
- Monitor the voltage and current of the BMS, and clearly see the battery cycle times.

RS232/USB PC Monitor

Figure 6: Real-time Monitoring Setup. This image demonstrates the capability for real-time monitoring of the battery's performance, including voltage, current, and cycle times, through an RS232/USB connection to a computer. Bluetooth/WiFi monitoring is also available as an optional feature.

MAINTENANCE

Dawnice LiFePO4 batteries are largely maintenance-free due to their robust design and integrated BMS. However, following these simple guidelines can help ensure maximum lifespan:

- **Regular Inspection:** Periodically check the battery terminals for cleanliness and tightness. Ensure there are no signs of corrosion or damage.
- **Environmental Conditions:** Maintain the battery in a stable environment, avoiding extreme temperatures and high humidity.
- **Charging:** Always use a compatible LiFePO4 charger. Avoid overcharging or deep discharging the battery frequently, although the BMS provides protection against these.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50-70% State of Charge (SOC)

and stored in a cool, dry place.

TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For more complex problems, please contact Dawnice customer support.

Problem	Possible Cause	Solution
Battery not charging	Charger not connected, charger fault, BMS protection activated (e.g., low temperature, over-discharge)	Check charger connection and functionality. Ensure ambient temperature is within operating range. If BMS cut-off, it should reactivate automatically after 1 second once conditions normalize.
No power output	BMS protection activated (e.g., over-discharge, over-current, short circuit), loose connections	Check all cable connections for tightness. Allow battery to rest if over-discharged. Reduce load if over-current. BMS will reactivate once conditions are safe.
Unusual sounds or smells	Internal fault, damage	Immediately disconnect the battery from all loads and chargers. Do not attempt to use. Contact Dawnice customer support.

SPECIFICATIONS

Key technical specifications for the Dawnice 48V 200AH LiFePO4 Battery:

Feature	Specification
Brand	Dawnice
Model Number	DW-LFP48200R
Battery Type	Lithium Iron Phosphate (LiFePO4)
Nominal Voltage	48V
Nominal Capacity	200AH
Max Power Output	5120W
Built-in BMS	100A
Cycle Life	6000+ cycles at 80% DOD
Expected Lifetime	10+ Years
Item Weight	220 pounds
Product Dimensions	19 x 7 x 19 inches
UPC	794969210333

WARRANTY AND SUPPORT

Dawnice is committed to providing quality products and excellent customer service. For any questions or concerns regarding your 48V 200AH LiFePO4 battery, please do not hesitate to contact us directly.

Dawnice provides 24 hours/7 days service. Our support team is available to assist you with product inquiries, technical support,

and troubleshooting.

For contact information, please refer to the official Dawnice website or your purchase documentation.